

**ABSTRACT**

A system, apparatus, and method for determining the distance between two objects using an indirect propagation delay measurement is disclosed. A frequency hopping scheme (such as the Bluetooth™ technology) is used to measure the relative phase offset of the received signal between the various frequencies. For a given distance between the objects, the phase offset vs. frequency curve is a straight line with the slope dependent upon the measured distance. After the phase of the received signals is detected, the data is plotted on a curve and the slope is calculated.